

Mineral Industry Surveys

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VANADIUM IN SEPTEMBER 1999

According to *Metal Bulletin*, U.S. ferrovanadium prices during September ranged from \$4.90 to \$5.20 per pound of vanadium content, compared with \$5.10 to \$5.25 in August. The range for European ferrovanadium prices was \$9.50 to \$10.40 per kilogram in September. In August, European ferrovanadium prices ranged from \$10.20 to \$10.50. For vanadium pentoxide, the September range as published by *Metal Bulletin* was \$1.70 to \$1.98 per pound, while in August it was \$1.93 to \$2.10 per pound.

Officials at Strategic Metals Corp. (Stratcor), citing an over-supplied market and reduced demand, announced plans to reduce vanadium pentoxide production at its Hot Springs, AR, plant. Production in 1999 reportedly was expected to be approximately 3,600 metric tons. In 1998, the plant produced approximately 4,500 tons of vanadium pentoxide. Stratcor officials also announced plans to reduce vanadium pentoxide production by 10% at its Vametco subsidiary in South Africa (Ryan's Notes, 1999).

Precious Metals Australia Ltd. (PMA), developers of the

Windimurra Mine in Australia, announced that additional funding for development of the property had been obtained. Nearly A\$14 million of the needed funding was raised by PMA through an equity rights offering. Additional funding was obtained from PMA's partner in the property Xstrata AG. As part of the agreement, Xstrata increased its stake in the property from 51% to 60%, and agreed to loan PMA A\$21 million. Under the agreement, PMA will regain its 49% interest in the project if it repays the loan within 5 years (*Metal Bulletin*, 1999).

References Cited

- Metal Bulletin*, 1999, Xstrata Finances PMA: *Metal Bulletin*, no. 8411, September 23, p. 13.
Ryan's Notes, 1999, Stratcor sets \$5.10 spot FeV price and announces production cuts: Ryan's Notes, v. 5, no. 37, September 13, p.1.

TABLE 1
U.S. CONSUMPTION AND CONSUMER STOCKS OF VANADIUM, BY FORM 1/

(Kilograms, contained vanadium)

	1998		1999			
	Consumption	Stocks	August		September	
			Consumption	Stocks	Consumption	Stocks
Ferrovandium 2/	4,010,000	302,000	283,000 r/	289,000 r/	285,000	298,000
Vanadium-aluminum alloy	W	9,000	W	12,400	W	12,800
Other 3/	387,000	3,000	38,600 r/	9,330	38,800	9,620
Total	4,390,000	314,000	321,000 r/	311,000 r/	323,000	321,000

r/ Revised. W Withheld to avoid disclosing company proprietary data; included with "Other."

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes other vanadium-iron-carbon alloys as well as vanadium oxides added directly to steel.

3/ Includes other vanadium alloys, vanadium metal, vanadium pentoxide, vanadates, chlorides, other specialty chemicals, and items indicated by symbol "W."

TABLE 2
U.S. CONSUMPTION OF VANADIUM, BY END USE 1/

(Kilograms, contained vanadium)

	1998	1999		
		August	September	Year to date
Steel:				
Carbon	1,650,000	113,000 r/	93,700	872,000
High-strength low-alloy	950,000	82,500 r/	77,500	724,000
Stainless and heat-resisting	42,400	2,450	12,100	60,700
Full alloy	891,000	65,500 r/	68,200	666,000
Tool	269,000	25,800	31,100	255,000
Total steel	3,800,000	289,000 r/	283,000	2,580,000
Superalloys	19,900	1,290	1,290	11,600
Miscellaneous and unspecified 2/	571,000	30,800	39,500	342,000
Total consumption	4,390,000	321,000 r/	323,000	2,930,000

r/ Revised.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes cast irons, alloys excluding steel and superalloys, chemical and ceramic uses, and other miscellaneous and unspecified uses.

TABLE 3
U. S. IMPORTS AND EXPORTS OF ALUMINUM-VANADIUM MASTER ALLOY AND
VANADIUM METAL, INCLUDING WASTE AND SCRAP 1/

(Kilograms, gross weight)

	Aluminum-vanadium master alloy		Vanadium metal, including waste and scrap	
	Quantity	Value	Quantity	Value
Imports for consumption:				
1998	298,000	\$496,000	12,200	\$491,000
1999:				
June	1,110,000	1,550,000	22	17,700
July	--	--	470	25,400
August:				
Germany	--	--	30	16,300
Russia	--	--	1,600	81,100
Total	--	--	1,630	97,400
Year to date p/ 2/	1,110,000	1,550,000	21,900	571,000
Exports:				
1998	856,000	11,500,000	346,000	7,160,000
1999:				
June	8,700	112,000	9,650	225,000
July	61,400	1,150,000	17,500	310,000
August:				
Australia	--	--	8,510	144,000
Canada	16,700	207,000	295	6,480
Japan	1,380	27,900	--	--
United Kingdom	--	--	5,000	117,000
Total	18,000	235,000	13,800	268,000
Year to date	256,000	3,700,000	128,000	2,440,000

p/ Preliminary.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ May include revisions to previous months' data.

Source: Bureau of the Census.

TABLE 4
U. S. IMPORTS AND EXPORTS OF FERROVANADIUM, VANADIUM PENTOXIDE (ANHYDRIDE) AND
OTHER OXIDES AND HYDROXIDES OF VANADIUM 1/

(Kilograms, contained vanadium)

	Ferrovanadium		Vanadium pentoxide (anhydride) 2/		Other oxides and hydroxides of vanadium	
	Quantity	Value	Quantity	Value	Quantity	Value
Imports for consumption:						
1998	1,620,000	\$39,300,000	847,000	\$12,300,000	33,000	\$574,000
1999:						
June	179,000	1,910,000	1,120	57,200	--	--
July	124,000	1,280,000	46,800	412,000	--	--
August:						
Austria	35,400	378,000	--	--	--	--
Canada	46,600	508,000	--	--	--	--
China	75,200	773,000	--	--	--	--
Czech Republic	16,400	171,000	--	--	--	--
South Africa	65200	656000	37,400	275,000	--	--
Total	239,000	2,490,000	37,400	275,000	--	--
Year to date	1,150,000	13,500,000	115,000	1,110,000	--	--
Exports:						
1998	579,000	13,700,000	681,000	6,850,000	232,000	2,830,000
1999:						
June	4,550	68,500	118,000	532,000	20,700	157,000
July	20,700	284,000	17,800	93,000	6,910	70,000

See footnotes at end of table.

TABLE 4--Continued
U. S. IMPORTS AND EXPORTS OF FERROVANADIUM, VANADIUM PENTOXIDE (ANHYDRIDE) AND
OTHER OXIDES AND HYDROXIDES OF VANADIUM 1/

(Kilograms, contained vanadium)

	Ferrovanadium		Vanadium pentoxide (anhydride) 2/		Other oxides and hydroxides of vanadium	
	Quantity	Value	Quantity	Value	Quantity	Value
Exports: 1999--Continued:						
August:						
Italy	--	--	9,900	\$51,100	--	--
Mexico	16,500	\$266,000	--	--	--	--
Saudi Arabia	--	--	527	5,000	--	--
Singapore	289	9,600	--	--	--	--
Thailand	--	--	100	2,540	--	--
Total	16,800	276,000	10,500	58,600	--	--
Year to date p/ 3/	182,000	2,700,000	613,000	3,550,000	56,000	\$533,000

p/ Preliminary.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ May include catalysts containing vanadium pentoxide.

3/ May include revisions to previous months' data.

Source: Bureau of the Census.

TABLE 5
U. S. IMPORTS FOR CONSUMPTION OF VANADIUM-BEARING ASH, SLAG 1/

(Kilograms, contained vanadium pentoxide)

	Ash and residues		Ash and residues (not from the manufacture of iron and steel)		Slag, from the manufacture of iron and steel	
	Quantity	Value	Quantity	Value	Quantity	Value
Imports for consumption:						
1998	3,030,000	\$9,960,000	2,280,000	\$1,710,000	1,250,000	\$10,500,000
1999:						
June	178,000	2,220,000	240,000	112,000	290,000	405,000
July	104,000	518,000	129,000	103,000	--	--
August:						
Canada	--	--	116,000	72,700	--	--
Mexico	21,100	128,000	--	--	--	--
South Africa	--	--	--	--	286,000	395,000
Total	21,100	128,000	116,000	72,700	286,000	395,000
Year to date	1,400,000	5,940,000	1,360,000	750,000	855,000	1,360,000

1/ Data are rounded to three significant digits; may not add to totals shown.

Source: Bureau of the Census.

TABLE 6
U. S. IMPORTS FOR CONSUMPTION OF MISCELLANEOUS VANADIUM CHEMICALS 1/

(Kilograms, contained vanadium)

	Sulfates		Vanadates	
	Quantity	Value	Quantity	Value
Imports for consumption:				
1998	350	\$19,300	129,000	\$1,410,000
1999:				
June	--	--	16,600	196,000
July	--	--	2,920	43,200
August:				
Germany	--	--	14,800	147,000
Japan	--	--	8	24,800
South Africa	--	--	12,100	104,000
Total	--	--	26,900	276,000
Year to date	--	--	87,700	997,000

1/ Data are rounded to three significant digits; may not add to totals shown.

Source: Bureau of the Census.